

round subshining black spot bordered with brown pollen below. Bezzi described the scutellum as having no macrochaetae; it does, however, have numerous long erect hairs, especially toward its apex, some of which are almost bristlelike. Bezzi is uncertain about the abdominal pollen since in his specimen the abdomen is not in a good state of preservation ("greased"?). In my specimen the abdominal terga, especially 2 to 6 inclusively, are cinereous pollinose at the bases and sides, briefly so also apically, but with gray pollen, in places with somewhat of a yellow tinge, in the middle.

Honduras record.—Puerto Castilla, May 3, 1923 (T. H. Hubbell), no. 2, 1 female.

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ZOOLOGY.—*Two new species of Eulimnadia from Maryland and Virginia (Crustacea: Conchostraca)*. N. T. MATTOX, University of Southern California.¹ (Communicated by Fenner A. Chace, Jr.)

During the course of studies of the conchostracan phyllopods in the collections of the U. S. National Museum two new members of the genus *Eulimnadia* were found. These animals were represented in 13 collections from temporary pools found in 3 different localities.

Eulimnadia ventricosa, n. sp.

Description.—Male: With characters of the genus (Packard, 1883, and Daday, 1926). The bivalve shell is amber colored, transparent, and elongately oval (Fig. 1, *a*). The dorsal margin is slightly rounded with the highest elevation (umbo) approximately two-fifths the length from the anterior margin. The ventral margin of the shell is greatly rounded, with the posterior end more truncate than the anterior. The length of the shell averages 8.5 mm with an average height of 5.2 mm. The lines of growth vary in number from 8 to 12, with the outer ones very closely spaced.

The head possesses the typical frontal organ

(Fig. 1, *c*). The front is straight dorsally, but prominently extended ventrally forming a conspicuous rostrum. The scape of the second antennae extends beyond the tip of the rostrum. Each flagellum of the second antennae is variously spined and has nine segments, the posterior one being longer than the anterior. The first antennae are longer than in the female, extending to the distal end of the third segment of the flagellum of the second antennae. The first antennae possess 9 or 10 dorsal sensory papillae.

The body bears 18 pairs of swimming legs. The first and second pair are modified into the claw-like gnathopods typical of the genus. The two segments of the sixth endite of the first pair of gnathopods are of the same length (Fig. 1, *e*). The terminal segment of the sixth endite of the second gnathopod is approximately twice the length of the proximal segment and is much longer than that of the first gnathopod (Fig. 1, *f*). The posterior 10 to 12 body segments bear middorsal spines.

The telson is elongate, the ventral margin much shortened extending only one-third the distance of the dorsal margin (Fig. 1, *g*). The dorsal ridges of the telson are variously spined with 14 to 16 pairs of spines. The terminal telson

¹ Department of Zoology, Allan Hancock Foundation. Allan Hancock Foundation Contribution No. 108.

claws are elongate and tapered, extending posteriorly to a distance equal to the length of the dorsal margin. The dorsal forked filament arises between the third and fourth pair of telson spines.

Female: The female shell is much more rounded, ventricose, in outline (Fig. 1, *b*). Both the dorsal and ventral margins are very rounded with the greatest height near the center. The length of the shell in mature females varies from 7.7 to 10.7 mm, and the height varies from 5.3 to 6.8 mm. The average size of those measured is 8.9 mm by 6.1 mm. The number of growth lines averages 10, with a variation of 8 to 12.

The front of the head is much less concave than in the male with the rostrum less pronounced (Fig. 1, *d*). The second antennae are similar to those of the male. The first antennae are much reduced, not extending beyond the distal end of the scape of the second antennae.

The swimming legs, 18 pairs, are unspecialized, being of the general, swimming type characteristic of the genus.

The telson is similar to that of the male with 14 to 19 pair of dorsal spines, 15 pairs is the average number.

Type locality.—Bear Island, Potomac River, Montgomery County, Md.

Types.—Holotype, male, U.S.N.M. no. 93439; paratypes, both sexes, U.S.N.M. no. 93440, and in writer's collection.

Remarks.—*Eulimnadia ventricosa* more closely resembles *E. stoningtonensis* Berry than any other North American species of the genus. *E. ventricosa* differs from *stoningtonensis* in the longer first antennae of the male; the greater number of telson spines, 14 being the maximum number in *stoningtonensis*; the origin of the forked filament of the telson between the third and fourth spines instead of between the fifth and sixth as in *stoningtonensis*; the more pronounced rostrum; a shell length-height ratio of 1.6 to 1 as against a 1.4 to 1 ratio for *stoningtonensis*; up to 12 growth lines in contrast to 10 for *stoningtonensis*; and a maximum size up to 10.7 mm, with 8.5 mm the longest shell length for *stoningtonensis*. Compared to other North American species *E. ventricosa* is larger, more ventricose, and has more lines of growth than any other member of the genus.

Eulimnadia ventricosa is represented in nine collections. This species was taken in seven collections from Bear Island, Md., by Robert S. Bray during July and September, 1941. Notes on the environment for these collections indicate

that they were taken in small temporary pools with a recorded temperature variation of 71 to 88°F. and a pH variation of 6.4 to 6.7. In these collections there were 90 females and 9 males indicating a greater ratio of females than males as seems to be the case for other species of the genus.

The species is also represented in a collection of 16 females and 2 males taken at Lilypons, Frederick County, Md., by O. L. Meehan on July 12, 1937. Also, there was one female in a collection of *Cyzicus mexicanus* made by Eric Tuttle in a temporary pool between Chain Bridge and Georgetown, D. C., on July 18, 1950.

Eulimnadia francesae, n. sp.

Description.—Male: The bivalve shell (Fig. 1, *h*) is pale yellow, transparent, and very much elongate. The dorsal margin is nearly straight with only a slight elevation near the center of the shell. The ventral margin is regularly rounded. The shell length varies in mature males from 4.3 mm, with a height of 2.5 mm, to 4.5 by 2.7 mm. There are 1 or 2 lines of growth, with 2 the common number, located near the outer margin.

The head possesses the typical, dorsal pyriform frontal organ (Fig. 1, *j*). The front is very straight, only slightly concave. The scape of the second antennae is short, extending only slightly beyond the tip of the rostrum. The flagella of the second antennae are variously spined, 9 segmented, and are relatively short. The first antennae with 10 to 12 dorsal papillae extends to the distal end of the fifth segment of the second antennae flagella.

The body bears 18 pairs of swimming legs. The first and second pairs are modified gnathopods. The sixth endite of the first gnathopod is shorter than the length of the "claw" portion (Fig. 1, *l*). The two segments of the sixth endite of the second gnathopod are of equal length. (Fig. 1, *m*).

The telson is truncate in general form (Fig. 1, *n*). The dorsal ridges are armed with 9 to 11 spines. The dorsal forked filament arises between the second and third pairs of spines. The terminal telson claws are elongated; they extend posteriorly less than the length of the dorsal telson margin.

Female: The shell is elongately oval with the dorsal margin slightly elevated (Fig. 1, *i*). The ventral margin is regularly and prominently rounded with the greatest height near the center of the shell. The number of growth lines on

mature individuals varies from 2 to 4 with the greater number possessing 3 lines.

The head of the female is very similar in form

to that of the male (Fig. 1, *k*). The front is only slightly concave and the dorsal surface is very convex with the occipital notch very conspicuous.

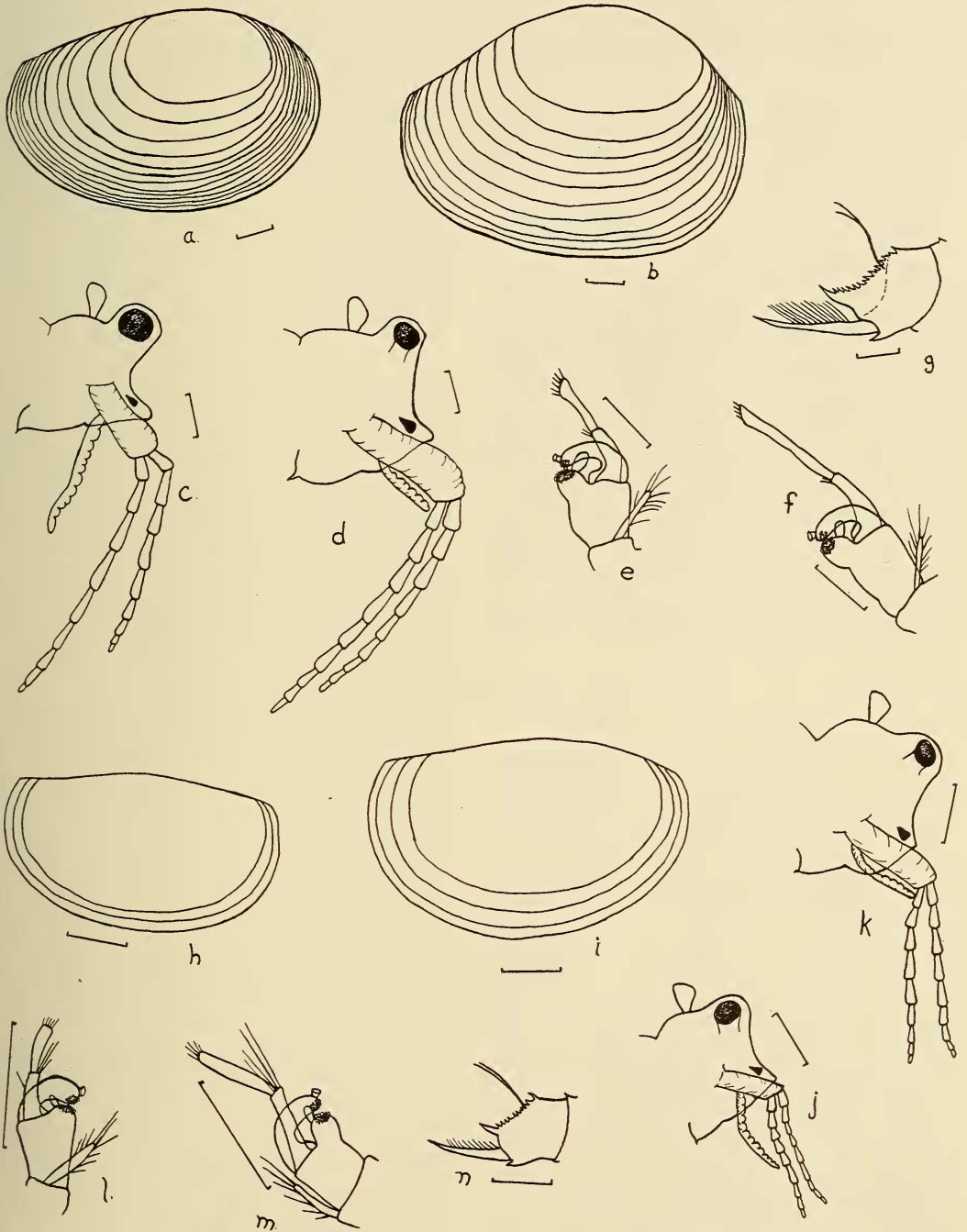


FIG. 1.—*a-g*, *Eulimnadia ventricosa*, n. sp.: *a*, Shell of male; *b*, shell of female; *c*, head of male; *d*, head of female; *e*, first gnathopod of male; *f*, second gnathopod of male; *g*, telson. *h-n*, *Eulimnadia francesae*, n. sp.: *h*, Shell of male; *i*, shell of female; *j*, head of male; *k*, head of female; *l*, first gnathopod of male; *m*, second gnathopod of male; *n*, telson. Scales: *a*, *b*, *h*, *i* equal 1 mm; all others 0.5 mm.

The second antennae have a longer scape than the male. The flagella of the second antennae are 9 segmented and are of equal length as in the male.

The 18 pairs of swimming legs are of the characteristic type of phyllopod swimming appendages.

The telson is similar to that of the male with 9 to 11 dorsal spines; 10 is the typical number.

Type locality.—Bear Island, Potomac River, Montgomery County, Md.

Types.—Holotype, male, U.S.N.M. no. 93446, paratypes, both sexes, U.S.N.M. no. 93447, and in the collection of the writer.

Remarks.—*Eulimnadia francesae* resembles *E. diversa* Mattox more than the other species in the genus. The distinctive differences between these two species are as follows: Shell of *E. francesae* is more elongate; the front of the head is more concave in *E. diversa*; the frontal organ is more dorsal in *E. francesae*; the occipital notch is more conspicuous, deeper, in *E. francesae*; in the relative length of the second antennae those of *E. francesae* are shorter than *E. diversa*; the first antennae of the male are longer in *E. francesae*; the equal length of the flagella of the second antennae is distinctive; *E. francesae* has a

normal number of 10 telson spines while *E. diversa* has an average of 12; and the ventral telson claws of *E. francesae* are not as elongate as those of *E. diversa*. The elongate shell, the small size, and the small number of growth lines, make *E. francesae* different from all other North American species of the genus except *E. alineata* Mattox which has no lines of growth.

This species is represented in four collections all from Bear Island, Md., and collected by Robert S. Bray during July 1941. These animals were found in temporary pools with a recorded average temperature of 80°F. and a pH of 6.2. In the four collections there are 102 females and 17 males, again indicating the unequal ratio of the sexes typical of the genus.

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PROCEEDINGS OF THE ACADEMY

457TH MEETING OF BOARD OF MANAGERS

The 457th meeting of the Board of Managers, held for the first time in the Board Room of the new quarters of the Cosmos Club, 2121 Massachusetts Avenue, on October 13, 1952, was called to order at 8:07 p.m. by President RAMBERG, with the following in attendance: WALTER RAMBERG, FRANK M. SETZLER, F. M. DEFANDORF, H. S. RAPPLEYE, J. A. STEVENSON, HARALD A. REHDER, WILLIAM F. FOSHAG, A. T. MCPHERSON, SARA E. BRANHAM, ROGER G. BATES, A. G. McNISH, JOHN K. TAYLOR, C. A. BETTS, A. H. SCOTT, L. A. SPINDLER, A. M. GRIFFIN, N. R. ELLIS, E. H. WALKER, L. E. YOCUM, and, by special invitation, F. N. FRENKIEL.

The President announced that the November meeting would be addressed by John Hagen, of the Naval Research Laboratory, on *Radio astronomy*.

ARCHIBALD T. MCPHERSON, chairman of the Committee on Encouragement of Science Talent, presented the following report:

Junior Academy.—The organization of the Washington Junior Academy of Sciences was con-

summated on June 13, 1952, at a meeting held in the Cosmos Club. Watson Davis, director of Science Service, addressed the meeting on *Science for Youth*. The Committee designated about 85 students and 40 recent graduates of secondary schools in the Greater Washington area as members and alumni members, respectively. The selection was based on tangible achievements such as the winning of recognition in science fairs, science talent searches, or related activities. The Committee also designated 57 fellows of the Junior Academy, including teachers whose students had shown outstanding accomplishments and others who have been especially active in the promotion of science education.

The affairs of the Junior Academy are in the hands of a Governing Council comprised of the following persons in addition to the Committee on the Encouragement of Science Talent:

Officers: FRED SCHINDLER (President), Northwestern High School; VERNON J. MICHEL (Vice President), Kelly Miller Junior High; STANLEY PLATNIK (Treasurer), Roosevelt High School; MARY JEANNE KREEK (Secretary), Woodrow Wilson High School.

Alumni Representatives: CAROL COLSON, Eastern High School; LEE KIMBELL, McKinley High School—American University.